REMARKS

Claims 24, 26, 29-41, 43, 45, and 47-57 are pending in the present application. Claims 29 and 52-57 are allowed. Claims 24, 26, 30-36, 39, 41, 43, 45 and 47-51 were rejected under 35 U.S.C. §112, first paragraph for containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner suggested that the specification did not teach the feature of "selectively setting/adjusting wavelength". The Applicant respectfully traverses the rejection.

Specifically, the specification contains multiple disclosures describing how wavelengths are selectively set or adjusted. Turning the Examiner's attention to FIGs. 1-4, the disclose gives at least one example of this feature. FIGs. 1-2 explicitly disclose the background of SRS effects on wavelengths and transmission bands set in the context of red and blue transmission bands (see specification page 2). FIGs. 3-4 provide an example of a system and method for independently adjusting the level and the tilting for optical signals (that have attributable wavelengths), which can both amplify and attenuate, for example, a wavelength multiplex signal (see specification page 3, last paragraph). In the example of pages 6-7 of the present specification, there is detailed disclosure on how different tiltings are implemented with the pump signals to adjust (discussed as attenuating and amplifying) the red and blue wavelengths. To be sure, the adjustable pump signals, which Accordingly, it is submitted that the rejection under 35 U.S.C. §112, paragraph 1, is improper and should be withdrawn.

Claims 24-26, 30-31, 33-36, 39, 41, 43, 45 and 47-50 were rejected under 35 U.S.C. §103(a) as being anticipated by *Yamane et al.* (U.S. Patent No. 5,764,404) in view of *Inagaki et al.* (U.S. Patent 5,745,283). Claim 32 was rejected under 35 U.S.C. §103(a) as being anticipated by *Yamane et al.* (U.S. Patent No. 5,764,404) in view of *Inagaki et al.* (U.S. Patent 5,745,283) and further in view of *Onaka et al.* (U.S. Patent 6,067,187). Claim 51 was rejected under 35 U.S.C. §103(a) as being anticipated by *Yamane et al.* (U.S. Patent No. 5,764,404) in view of *Inagaki et al.* (U.S. Patent 5,745,283) and further in view of *Chikuma et al.* (U.S. Patent 6,055,093)The Applicants respectfully traverses these rejections for the following reasons.

With respect to independent claim 24, the Office Action asserts that *Yamane et al.* discloses the elements recited in this claim. The Applicant respectfully disagrees and submits

that claim 24 is not taught or suggested by the prior art of record. In particular, *Yamane et al.* does not teach the feature of "injecting at least one pump signal and at least one further pump signal into the optical conductor . . . when at least one pump signal having a wavelength less than a minimum wavelength of each of the plurality of transmission bands and the at least one further pump signal having a wavelength that is greater than a maximum wavelength of each of plurality of transmission bands" as recited in claim 24, and similarly recited in claim 45. In addition to the arguments submitted previously by the Applicant, the passage relied upon by the Examiner in *Yamane et al.*dislcloses two optical signals that are transmitted through an optical fiber (col. 10, lines 43-46). The gains of the amplifier are manipulated only when the 0.98 μm and 1.48 μm excitation signals are combined as a single signal (i.e., multiplexed) and applied to the optical fiber (col. 9, lines 29-37, 49-51; col. 10, lines 43-63). *Yamane et al.* also discloses that the 0.98 μm and 1.48 μm excitation signals may be applied independently, but only at different locations of the optical fiber (col. 3, lines 46-48; col. 10, lines 64-67; FIG. 19; col. 13, lines 32-37). Contrary to the present invention, *Yamane et al.* teaches that the two pump signals are not injected "into the optical conductor" without the need for multiplexers to combine the two excitation signals into a single excitation signal (*cmp.* FIG. 18 and FIG. 19).

Furthermore, *Yamane et al.* clearly discloses that the optical signals have respective wavelengths of 1.535 μm and 1.557 μm, while the excitation signals have respective wavelengths of 0.98μm and 1.48μm. It is evident from this disclosure that one pump signal cannot be said to have "a wavelength less than a minimum wavelength of each of the plurality of transmission bands" and the one further pump signal "having a wavelength that is greater than a maximum wavelength of each of plurality of transmission bands". Both of the pump signals in *Yamane et al.* are clearly disclosed as having wavelengths "less than a minimum wavelength of the plurality of transmission bands." The teaching is clear in *Yamane et al.* that the problem solved in the reference pertains to optical amplifiers using erbium-doped optical fiber, which is typically used for signals in the range of 1.52 μm to 1.57 μm (col. 5, lines 48-53). As a consequence, *Yamane et al.* relies on excitation signals that have lower wavelengths to manipulate the gains of the amplifier (col. 3, lines 26-41; col. 5, line 65 to col. 6, line 12). This teaching has already been acknowledged by the Applicant in the Background of the present Application (see specification page 5, lines 9-18).

Additionally, the other cited prior art does not cure the deficiencies of *Yamane et al.* discussed above In light of the foregoing comments, the Applicant respectfully submits that claims 24 and 45, and all claims that are dependent therefrom, are allowable over the prior art of record and requests that the rejection be withdrawn, accordingly. The Applicant respectfully submits that the application is in condition for allowance and requests a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY _____

Peter Zura
Reg. No. 48,196
P.O. Box 1135
Chicago, Illinois 60690-1135
Phone: (312) 807-4208

Dated: June 18, 2004